

YT1-1603-000

Network Camera

VB-M600D/VB-M600VE Installation Guide

Thank you for purchasing Canon Network Camera VB-M600D/VB-M600VE (hereafter referred to as

VB-M600D is designed for indoor use only. VB-M600VE can be installed underneath eaves. Be sure to read "Installation Guide" (this document) and "VB-M700F/VB-M600D/VB-M600VE Operation Guide" (included in the Setup CD-ROM) before use.

This "Installation Guide" explains the mounting method of the camera on a ceiling or wall and the mounting method using the optional junction box mounting kit PS600-VB. Be sure to read the "Safety Precautions" section for correct use. After reading this "Installation Guide", keep it in a readily accessible location for future reference.

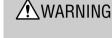
(optional), please read the "Recessed Mounting Kit SR600-VB Installation Guide" bundled with the recessed mounting kit When using the heater unit (optional), please read the "Heater Unit HU600-VB User's Manual"

For the installation of this camera recessed into a ceiling or wall using the recessed mounting kit

bundled with the heater unit. The detailed procedures for using this camera are explained in the "VB-M700F/VB-M600D/

VB-M600VE Operation Guide". Read these guides carefully before using the camera to ensure

* For the latest information (firmware and bundled software, User's Manuals, operating environment, etc.) please check our website.



/!\WARNING VB-M600D To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.



Caution Request a professional installer for all camera installation work. Never try to install the camera by yourself. Doing so may result in unforeseen accidents such as dropping the camera or electric shock.

2. Power connector

4. Audio interface cable

6. Dome case lock screw wrench

8. Installation Guide (This document)

(VB-M600VE only)

Write the serial number and MAC address of the camera (printed on the seal at the bottom of the camera) in the field below before storing this Installation Guide in a safe location. MAC Address

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Check Bundled Items

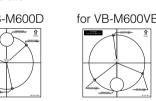
This product comes with the following items. If any item is missing, contact the dealer where you purchased the product.

1. Camera main unit (VB-M600D or VB-M600VE)

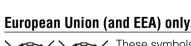
3. Safety wire











These symbols indicate that this product is not to be disposed of with your household waste according to the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150), it is a simple of the MEEE Direction (2000/20/150). household waste, according to the WEEE Directive (2002/96/EC), the Battery Directive (2006/66/EC) and/or your national laws implementing those Directives. If a chemical symbol is printed beneath the symbol shown above, in

10. Notice

accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in this battery or accumulator at a concentration above an applicable threshold specified in the Battery Directive.

This product should be handed over to a designated collection point, e.g., on an authorized one-forone basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE) and batteries and accumulators. Improper handling of this type of waste could have a possible impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE.

Your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.

For more information about the recycling of this product, please contact your local city office, waste authority, approved scheme or your household waste disposal service or visit www.canon-europe.com/environment.

(EEA: Norway, Iceland and Liechtenstein)

otes on Privacy and Publicity Rights Regarding the Use of Video/Audio

When using the camera (for video or audio recording), it is the full responsibility of the user to protect privacy and avoid any violation of publicity rights. Canon shall have no liability whatsoever in this regard.

• If identifiable structures or premises will be captured, be sure to gain approval of the building management office before installing the camera.

Legal Notice

In some cases, camera monitoring may be prohibited by law or regulation, the details of which differ by country or region. Before using the camera, check the laws or regulations of the country or region where the camera is used.

lser's Manuals

- VB-M600D/VB-M600VE Installation Guide (This document)
- This guide provides notes on camera installation and explains the procedures to install the camera onto a ceiling or wall.
- VB-M700F/VB-M600D/VB-M600VE Operation Guide (Included in the Setup CD-ROM) This document explains the initial camera settings, Admin Tools settings, viewer operations and troubleshooting, etc.

Options can be bought separately as necessary.

Recessed Mounting Kit SR600-VB

This dedicated optional item is used to install the camera recessed into a wall or ceiling.

Junction Box Mounting Kit PS600-VB

This dedicated optional item is used to mount the camera to a junction box.

Heater unit HU600-VB

This dedicated optional item is attached to the interior of VB-M600VE to maintain operation temperature within the dome and achieve stable operation even in extremely cold environments.

AC Adapter PA-V17

A dedicated AC adapter for this camera.

ymbols Indicating Safety Precautions

This "Installation Guide" uses the following marks to indicate important information the user should know in order to use the product safely. Be sure to observe these items.

⚠ Warning	Inappropriate handling against the instruction accompanied by this sign may result in death or serious injury. Be sure to observe these warnings to ensure safety.
⚠ Caution	Inappropriate handling against the instruction accompanied by this sign may result in injury. Be sure to observe these precautions to ensure safety.
Caution	Inappropriate handling against the instruction accompanied by this sign may result in property damage. Be sure to observe these precautions.
Important	This symbol indicates important or restricted items. Be sure to read this section.
Note	Contains reference information for operation or additional explanations.

Safety Precautions

This section explains precautions that must be observed when using the camera. If they are not observed, injury, death and/or property damage may occur. Read the following information carefully and be sure to observe the precautions.

Installation Precautions

Warning

Do not install in the following places:

• Places in strong direct sunlight, near heat-generating objects, or subject to high

- Places near fire sources or flammable solvents (alcohol, thinner, etc.)
- Humid or dusty places
- Places subject to lamp black or steam
- Places subject to sea air
- Confined or enclosed places

Fire or electric shock may result.

! Caution

For installation or inspection of this camera, consult the dealer where you purchased the product.

- This installation should be made by a qualified service person and should conform to all local codes.
- When installing on a ceiling, make sure the surface is capable of withstanding the total weight of the camera and ceiling plates and is sufficiently reinforced if necessary.
- Periodically check the brackets and screws for rust and loose material to prevent
- injuries and equipment damage due to falling items.
- Do not install in unstable places, places subject to significant vibration or impact, or places subject to salt damage or corrosive gas.
- Be sure to attach the safety wire when installing the camera. Failure to do so may result in the camera falling or other accidents.
- Do not touch the edge of metal parts with bare hands.
- Do not insert your finger in the space between the brackets and the ceiling. Injury may result.

Caution

- Do not install the camera on an unstable surface.
- To maximize shock resistant specifications, do not install on insufficiently strong surfaces or surfaces subject to significant vibration (VB-M600VE).

Malfunction may result.

• Take care not to damage wiring or pipes in the room. Damage to peripheral items may result.

Precautions for Mounting the Camera Underneath Eaves (VB-M600VE) For installation of VB-M600VE underneath eaves, observe the following precautions to retain

- waterproof/dustproof capabilities. Be sure to install the camera underneath eaves unexposed to direct sunlight.
- Install the camera in a place unexposed to direct rainfall. • Firmly fix the dome case to the main unit of the camera with the lock screws, taking care not to pinch cables between the main
- unit and dome case • If wiring the camera through the wiring hole on the bottom, use silicone sealant or a rubber mat to ensure waterproofing. Also
- use an insect repellent sponge if necessary. • If wiring with a composite pipe (NPT 3/4 inch threaded hole) attached to the wiring hole, wrap teflon tape around the tip of the pipe, clear any debris from the wiring hole and firmly tighten the

pipe. Apply silicone sealant after attaching the pipe.

• When mounting the camera onto a wall or other upright surface, position the wiring hole straight down to prevent rain infiltration.

Precautions for Use

Marning

• If you discover defective conditions such as smoke, strange sounds, heat or strange odors, immediately stop using the camera and contact your closest dealer. Continued use may cause fire or electric shock.

- Do not disassemble or modify the camera.
- Do not damage the connecting cable and others.
- Do not spill water or other liquid inside the camera, spray the camera with water, or otherwise make it wet.
- Do not insert foreign objects into the camera.
- Do not use flammable sprays near the camera.
- Do not leave LAN cables, external power supplies or AC adapter (optional) power connectors connected when the camera is not in use for long periods.
- Do not use flammable solvents such as alcohol, paint thinner or benzine when cleaning the camera.

Fire or electric shock may result.

Notes on Power Supply

Marning

- Only use the dedicated AC adapter PA-V17 (optional) for AC power.
- Do not set any heavy objects on the power cable. • Do not pull, forcibly bend, scratch, or modify the power cable.
- Do not cover or wrap the AC adapter (optional) with cloth or blankets. Fire or electric shock may result.

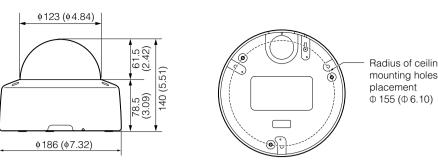
Be sure to read the User's Manual for the PA-V17 (optional) before use.

Caution

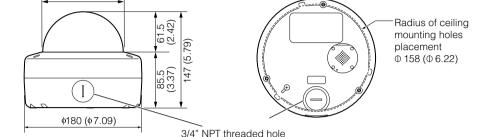
 After turning off the power, wait for at least five seconds before turning the power on again. If the power is turned on again too quickly, the camera may operate poorly.

External Dimensions

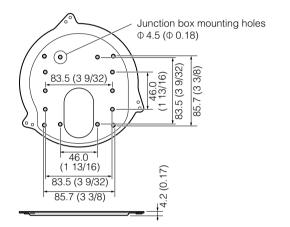
VB-M600D

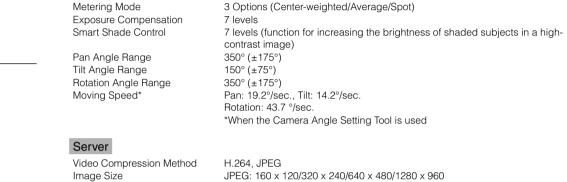


VB-M600VE



Junction Box Plate (Optional)





lain Specifications

Image Sensor

Focal Length

Viewing Angle

Shutter Speed

White Balance

Exposure

Unit: mm (in.)

Day/Night Switch

Min. Subject Illumination

Day Mode (color):

Shooting Distance (from front of lens)

F-number

Scanning Method

Number of Effective Pixels

H.264, JPEG

JPEG: 160 x 120/320 x 240/640 x 480/1280 x 960 H.264: 320 x 240/640 x 480/1280 x 960

1/3 type CMOS (primary color filter)

3x Optical Zoom Lens (Electric Drive)

Brightness" and "Response" settings.

One-shot AF/Manual/Fixed at infinity

Day Mode: 0.3 m (12 in.) - ∞

Night Mode: 1.0 m (3.3 ft.) - ∞

1/4000, 1/8000 sec.

Night Mode (monochrome): 0.008 lux (F1.2, Shutter Speed 1/30 sec., when Smart Shade Control is off)

0.25 lux (F1.2, Shutter Speed 1/30 sec., when Smart Shade Control is off)

0.07 lux (F1.2, Shutter Speed 1/8 sec., when Smart Shade Control is off)

0.018 lux (F1.2, Shutter Speed 1/8 sec., when Smart Shade Control is on)

0.002 lux (F1.2. Shutter Speed 1/8 sec., when Smart Shade Control is off)

0.001 lux (F1.2, Shutter Speed 1/8 sec., when Smart Shade Control is on)

1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000,

Auto/Flickerless/Shutter-Priority AE/Manual (Shutter Speed/Aperture/Gain)

Auto/Light Source (Warm Fluorescent, White Fluorescent, Daylight Fluorescent

Mercury Lamp, Sodium Lamp, Halogen Lamp)/Lock (One-shot WB)/Manual

Approx. 1.3 million pixels

F1.2 (W) - F2.0 (T)

f = 2.8 mm (W) - 8.4 mm (T)

Vertical: 74.7° (W) - 25.3° (T)

Horizontal: 101.2° (W) - 33.7° (T)

Image Quality JPEG/H.264: 5 levels Frame Rate*1 JPEG: 30 - 0.1 fps H.264: 30/15/10 fps Max. Frame Rate Max. 30 fps (1280 x 960) *1 Simultaneous Client Access JPEG: Max. 30 Clients + 1 Admin Client

H.264: Max. 10 Clients Audio Compression Method G.711 µ-law (64 kbps) Audio Communication Method Full-duplex (two-way) – Echo cancellation function compliant Audio Playback

available *2 IPv4: TCP/IP, UDP, HTTP, FTP, SNMP (MIB2), SMTP (Client), DHCP (Client), DNS (Client), ARP, ICMP, POP3, NTP, SMTP authentication, WV-HTTP (from IPv6: TCP/IP, UDP, HTTP, FTP, SMTP (Client), DNS (Client), ICMPv6, POP3, NTP,

SMTP authentication, WV-HTTP (from Canon), ONVIF On-Screen Display Encrypted Communications SSL/TLS, IPsec (Auto Key Exchange/Manual) 3 user levels available (Administrator/Authorized user/Guest user) Camera Control

Up to 50 users' user names and passwords can be set for Authorized users. Number of registration: Max. 8 places, Number of mask colors: 1 (select from 9 Privacy Mask

Detection Areas: Max. 15 places

Access control (user name and password)/Host-based access control (IPv4, IPv6) Access Control Intelligent Function Detection Types: Moving Object Detection, Abandoned Object Detection, Removed Object Detection, Camera Tampering Detection

Volume Detection External Device Input 1/2, Intelligent Function (Image), Intelligent Function **Event Trigger Type**

FTP/HTTP/SMTP (e-mail) Image Upload Temporary storage memory in camera: Max. approx. 4MB, Frame Rate: Max. 10 fps **Event Notification** HTTP/SMTP (e-mail)

English/French/German/Italian/Spanish/Japanese Language *1 The frame rate may be reduced due to Viewer PC's specs, the number of clients accessing at the same time, network loads, type or movement of the subject, image quality setting or other reasons.

LINE IN x 1 (connect to an amplifier microphone) or

SD Memory Card, SDHC Memory Card Compatible. Max. approx. 32 GB,

*2 A separately-sold amplifier speaker is necessary for playing audio files.

Memory Card

"ONVIF" is a trademark of ONVIF Inc.

LAN x 1 (RJ45, 100Base-TX (Auto/full-duplex/half-duplex)) Network Terminal Audio Input Terminal Φ 3.5 mm (Φ 0.14 in.) mini-jack connector (monaural) (common for LINE IN & MIC IN) * connect via a bundled audio interface cable LINE IN/MIC IN can be switched in the setting page

MIC IN x 1 (connect to a microphone w/o amplifier) Φ 3.5 mm (Φ 0.14 in.) mini-ia (LINE OUT) * connect via a bundled audio interface cable LINE OUT x 1 (connect to an amplifier speaker) External device I/O Terminal Input x 2 Output x 2

Frame Rate: Max. 1 fps

Dust-resistant/

Operating Environment VB-M600D Temperature: -10 – 50°C (14 – 122°F) / Humidity: 5 – 85% (without condensation) VB-M600VE Temperature: -10 – 50°C (14 – 122°F) / Humidity: 5 – 85% (without condensation) emperature: -30 – 50°C (-22 – 122°F) / Humidity: 5 – 85% (without condensation)*

*equipped with an optional Heater Unit HU600-VB PoE: PoE power supply via a LAN connector (IEEE802.3af compliant)

Power Supply AC adapter: Optional PA-V17 (AC 100-240 V)

External power source: AC 24 V/DC 12 V Auto or Manual. In "Auto" mode, it switches automatically according to "Switching Power Consumption

PoE Input: Max. approx. 8.6 W When using AC adapter PA-V17: Max. approx. 10.9 W

DC Input: Max. approx. 9.0 W AC Input: Max. approx. 8.3 W

 $(\Phi \times H) \oplus 186 \times 140 \text{ mm} (\Phi 7.32 \times 5.51 \text{ in.})$ **VB-M600VE** (\oplus x H) \oplus 180 x 147 mm (\oplus 7.09 x 5.79 in.

(VB-M600D) Approx. 1200 g (2.65 lb.) (camera main unit only)

VB-M600VE Approx. 1910 g (4.22 lb.) (camera main unit only) VB-M600VE External materials: aluminum alloy, Dome: polycarbonate plastics Impact Resistance Lens shock absorbing mechanism

Estimated shock resistant: 50J (impact strength) *Based on Canon's test method

Max. approx. 18.9 W* *equipped with an optional Heater Unit HU600-VB

Waterproof Specification *Only when installed correctly and proper dust and waterproofing are performed.

(without condensation)

AC Adapter (optional)

Input 100-240 VAC 50/60 Hz 13 VDC 1.8 A (MAX), temperature -10°C - 35°C (14 - 95°F) humidity 20 - 85% Output

> (without condensation) When combined with the network camera 13 VDC 1.0 A (MAX), temperature -10°C - 45°C (14 - 113°F) humidity 20 - 85%

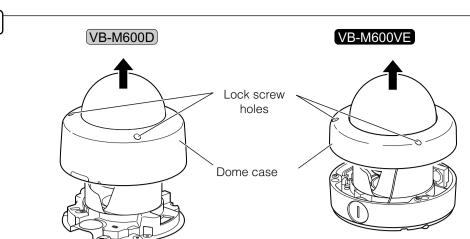
Black line side (-), white line side (+) (W x D x H) 58 x 118 x 25 mm (2.28 x 4.65 x 0.98 in.) (excluding projections)

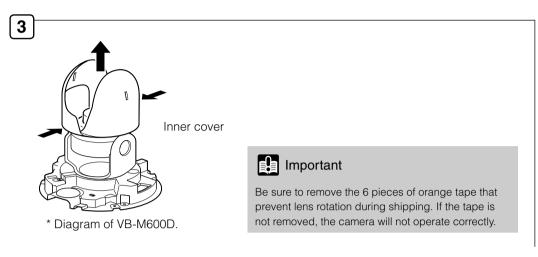
Approx. 215 g (7.6 oz.) (excluding cables) Junction Box Mounting Kit (Optional)

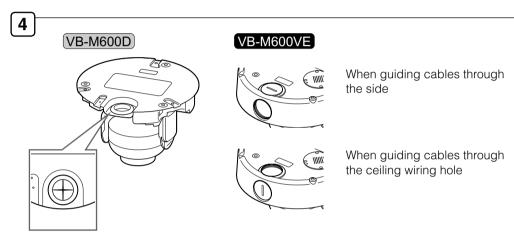
Temperature: -10 - 50°C (14 – 122°F) / Humidity: 5 – 85% (without condensation) emperature: -10 – 50°C (14 – 122°F) / Humidity: 5 – 85% (without condensation)

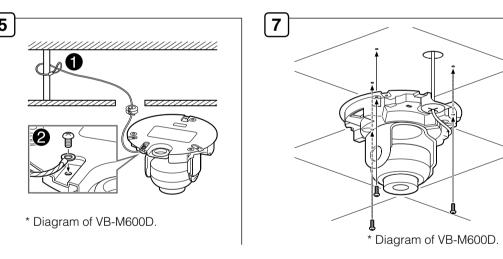
Temperature: -30 – 50°C (-22 – 122°F) / Humidity: 5 – 85% (without condensation)* *equipped with an optional Heater Unit HU600-VB Approx. 159 g (5.7 oz.) (including camera fixing screws)

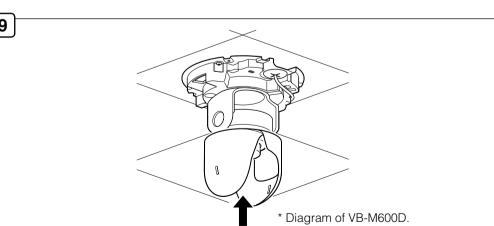
Approx. 162 g (5.8 oz.) (including camera fixing screws)

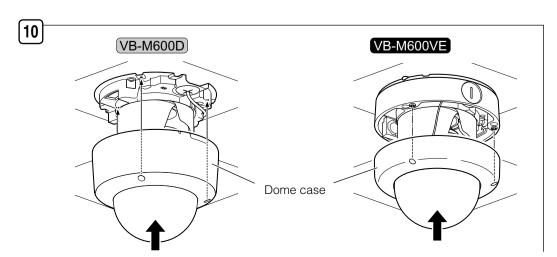












istalling the Camera

The following describes procedures for mounting the camera to a ceiling. Before installing the camera, set the IP address and other network information on the camera using the "VB Initial Setting Tool" on the Setup CD-ROM.

For details on how to operate the "VB Initial Setting Tool," see "VB-M700F/VB-M600D/VB-M600VE Operation Guide"

1 Determine an installation position for the camera and drill holes in the ceiling

Use the bundled template to determine the positions of the fixing screw holes and wiring hole according to the camera orientation. Next, drill holes in the the ceiling.

2 Loosen the three lock screws on the dome case and remove the dome case

Special temper-resistant screws are used for the dome case lock screws. Use the bundled dome case lock screw wrench.

3 | Remove the inner cover

Remove the 4 pieces of tape that prevent lens rotation during shipping, and push the inner cover in the direction of the arrows to remove it. Then remove the 2 pieces of tape attached to the base of the lens.

[f 4] Open the wiring hole according to the installation method

Use a box cutter to cut a cross shape into the wiring hole cover in order to guide cables through. Do not remove the wiring hole cover

Use a coin to unscrew the wiring hole cover from the side through which cables will be guided. Screw the wiring hole cover into the other wiring hole. You can fit a composite pipe (NPT 3/4 inch threaded hole) to the wiring hole.

5 | Secure the safety wire

Securely attach the safety wire to an anchor or structure. After securing one end of the safety wire to the ceiling, secure the other end to the camera using the screw that is fastened to the

6 Guide the LAN cable through the wiring hole

When using an external power supply, guide the power interface cable through the wiring hole. Guide the I/O interface cable and the audio interface cable (bundled) through the wiring hole if necessary.

Important

When using the AC adapter PA-V17 (optional), cut the cable tie and remove the ferrite core. Be sure not to damage the power cable when cutting the

Fix the camera at three points to the ceiling using the appropriate screws. Three Φ 4.5 mm (Φ 0.18 in.) ceiling fixing screw holes are located on the camera. You must provide screws that correspond to the ceiling fixing screw holes.

8 Wire the cables

[7] Fix the camera to the ceiling

Wire the cables referring to "Cable Wiring Method."

Important

When wiring is complete, seal the wiring hole to keep out insects and dust.

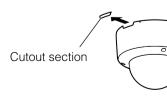
| 9 | Attach the inner cover

Attach the inner cover to its original position.

10 Attach the dome case

Firmly fix the dome case at three points to the camera using the dome case screws.

If the cables cannot be stored above a ceiling made of concrete, etc., break the cutout section of the dome case using diagonal pliers to create a cutout through which to guide the cables.



Cable tie

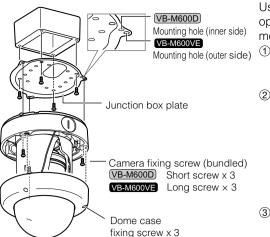
Important VB-M600VE

When attaching the dome case, be sure not to pinch cables between the camera and dome case. Pinched cables may impair dust and waterproofing capabilities.

|11|Set the camera angle

When installation is complete, use the Camera Angle Setting Tool to adjust the pan, tilt, rotation, zoom (and focus) (See "Camera Angle Setting Tool" in the "VB-M700F/VB-M600D/ VB-M600VE Operation Guide".

Using a Junction Box



Use the junction box plate (bundled with the optional junction box mounting kit PS600-VB) to mount the camera to the junction box. Mounting hole (outer side) ① Attach the junction box plate to the junction

box with screws that match the screw holes in the junction box. ② Guide the cables through the wiring hole and

mount the camera to the junction box plate

using the 3 bundled camera fixing screws The camera fixing screws differ in length depending on the camera. Use short screws for VB-M600D, and long screws for

3 Wire the cables and attach the inner cover and dome case

* Diagram of VB-M600VE.

Using an SD Memory Card

Inserting the card

Push the SD memory card as far as possible into the SD card slot with the label facing outward.

Removing the card

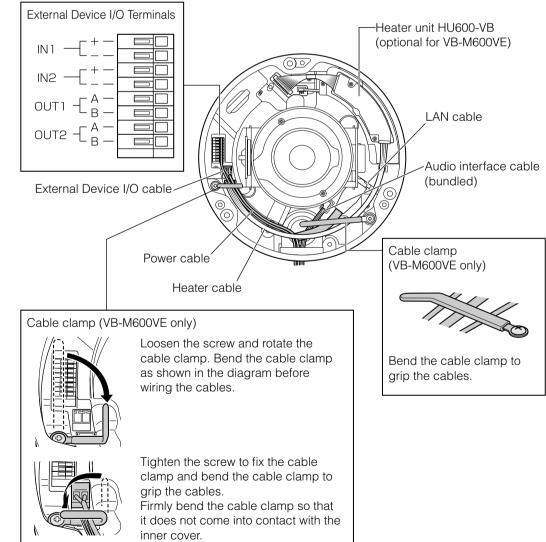
Push the SD memory card in all the way until the card slightly pops out. Pinch the card and remove.

Important

- Make sure the SD memory card isn't write-protected.
- When using an SD memory card with the camera for the first time, it is recommended to format the card after inserting it into the camera (see "Memory Card" in "Setting Page" in the "VB-M700F/VB-M600D/ VB-M600VE Operation Guide").
- Insert the SD memory card before attaching the dome case.

Cable Wiring Method

For VB-M600VE, secure the various cables with the cable clamps fastened to the camera to prevent damage to cables or connectors due to vibration, etc. *The diagram is a wiring example for VB-M600VE.



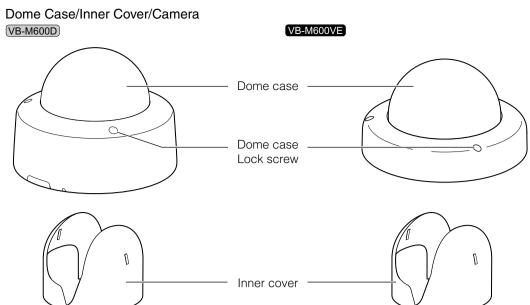
-Bend the cable clamp so that

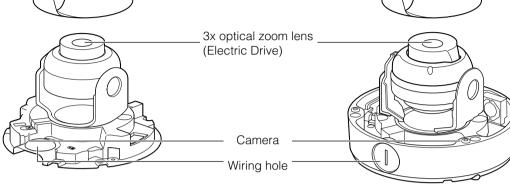
it does not exceed this height

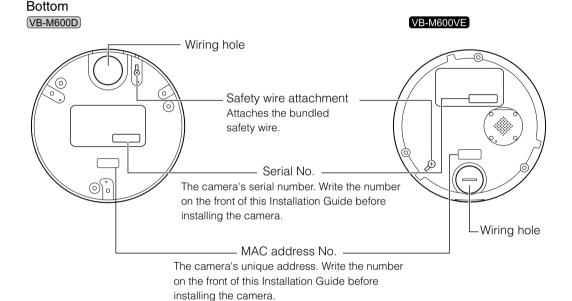
Cable clamp

Inner cover

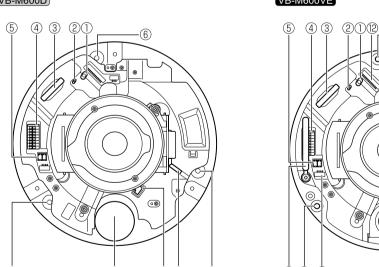
Part Names







Top view of the camera interior **VB-M600D**



Reset switch

Turn on the power while pushing this switch using a sharp object. Continue to push the switch for 5 seconds or more to restore all factory settings except for the date and time.

- ② LED The blue LED light comes on.
- On: When powered on, during reboot Off: During normal use
- ③ SD card slot
- External device I/O terminals (5) Power connection terminal
- ⑥ Installation screw holes
- Used when securing the camera to the installation surface, the junction box mounting kit (optional), or the recessed mounting kit (optional).
- 8 Audio I/O terminal
- Connect the bundled audio interface cable here to connect audio input and output devices to the camera. 9 100BT LAN connector
- 100Base-TX support PoE power supply (IEEE802.3af compliant)
- ① Cable clamps (VB-M600VE only) 11) Fan (VB-M600VE only)
- 12 Heater connection terminal

onnecting the Camera

Power Connection

Power can be supplied to the camera in the three ways described below.

■ PoE (Power over Ethernet)

The camera supports PoE functions. Power can be supplied to the camera by using a LAN cable to connect it to a PoE HUB that conforms to the IEEE 802.3af standard.

Important

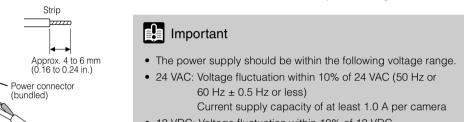
- Check with your Canon sales representative for more information about PoE HUB and Midspan
- Some PoE HUBs allow current limits for each port, but applying limits may interfere with performance. If
- using this type of PoE HUB, do not limit the operating current. • Some PoE HUBs have total consumption current limits for ports, which can interfere with performance
- when multiple ports are in use. For more information, check the instruction guide for your PoE HUB. • Use a category 5 or higher cable 100 m (328 ft.) or less in length for the LAN cable that connects the camera and the PoE HUB.
- When the camera is connected to a switching HUB, changing the connection while the camera is operating may cause the HUB learning function to interfere with communication. Do not change the connection when the camera is operating.
- The camera can also be connected to an AC adapter (optional) while receiving power from a PoE HUB. In such cases, the PoE power supply is given priority, and the camera does not use the power supply from the AC adapter (optional). When the PoE power supply is disconnected, power is supplied automatically from the AC adapter (optional). Midspan (a LAN cable power supply device) is a device that, like a PoE HUB, supplies power to the camera via a LAN cable.

■ External Power Supply 12 VDC or 24 VAC input can be used.

Connect the bundled power connector as shown below.

For 12 VDC and 24 VAC input, use a power supply insulated from 100 VAC. ightening torque: 0.2 N·m (max)

12 VDC can be connected in a non-polar configuration.



- 24 VAC: Voltage fluctuation within 10% of 24 VAC (50 Hz or 60 Hz ± 0.5 Hz or less) Current supply capacity of at least 1.0 A per camera
- 12 VDC: Voltage fluctuation within 10% of 12 VDC
- Current supply capacity of at least 1.5 A per camera • When using a 12 VDC battery power supply, be sure to connect resistors of at least $0.5 - 1.0 \Omega/20 \text{ W}$ in series to the power line.

• For an external power supply, use a double-insulated device.

Recommended Power Cables for VB-M600D/VB-M600VE [Reference]

ole (AWG)		24	22	20	18	16
nductor diameter	mm	Ф 0.52	Ф 0.65	Ф 0.82	Ф 1.03	Ф 1.30
	(in.)	(Ф 0.020)	(Ф 0.026)	(Ф 0.032)	(Ф 0.041)	(Ф 0.051)
VDC maximum cable length	m	5	9	14	23	32
	(ft.)	(16.4)	(29.5)	(45.9)	(75.5)	(105.0)
VAC maximum cable length	m	11	18	29	46	64
	(ft.)	(36.1)	(59.1)	(95.1)	(150.9)	(210.0)

Use UL cable (UL-1015 or equivalent) for 12 VDC or 24 VAC wiring.

AC Adapter

Use the dedicated AC adapter PA-V17 (optional).

■ Note

- The camera does not have a power switch. Connecting and disconnecting the LAN cable (PoE power
- supply), AC adapter, or external power supply plug turns the power ON and OFF, respectively. • When the camera needs to be rebooted, perform the reboot operation from the camera setting page (see "Maintenance" in "Setting Page" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide").
- When using the heater unit HU600-VB (optional), use 24 VAC for the VB-M600VE power supply. Poe, 12 VDC and the AC adapter cannot be used.

External Device I/O Terminals

External device I/O terminals consist of two input and output systems each. VB-M600 Viewer and RM Viewer can be used to check external device input status and control output to an "VB-M700F/VB-M600D/VB-M600VE Operation Guide").

External Device Input Terminals (IN1, IN2)

External device input terminals consist of two sets (IN1, IN2) of two terminals, with the negative terminal connected to the camera interior GND. Connect two cables to the positive and negative terminals. When electrical continuity or insulation is created between the terminals, the viewer will be notified of either status.

Important

- When connecting sensors and switches, connect terminals that are electrically isolated from the respective power and GND.
- Do not push the external device I/O terminal button with too much force. Doing so may cause the button

■ External Device Output Terminals (OUT1, OUT2)

Rating between output terminals:

Maximum voltage 50 VDC

daptive wiring for external device cables

Solid conductor AWG: No. 28 – 22

External device output terminals consist of two sets (OUT1, OUT2) of two terminals. The sets have no polarity. Controls from the viewer can be used to switch between electrical continuity and insulation from one terminal to the next. Using optical couplers, the output terminals are isolated from the camera's internal circuit.

The load connected to the output terminals should be within the following rating range.

Internal Connection Diagram Continuous load current at or below 100 mA

Conductor size: Ф 0.32 – Ф 0.65 mm (Ф 0.013 – Ф 0.026 in.)

Audio Input/Output Terminals

Cable strip should be approx. 8 – 9 mm (0.31 – 0.35 in.).

Each audio input/output terminal has one input system and one output system. Connecting the camera to an audio input/output device such as a microphone or a speaker with an amplifier allows you to send/receive audio through the viewer.

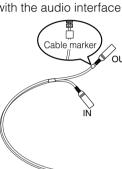
Use the bundled audio interface cable to connect audio input/output devices to the camera. Use the Φ 3.5 mm (Φ 0.14 in.) monaural mini-jack connector to connect an audio output device with the audio interface cable.

corresponds to the audio input terminal.

The long end (has cable marker) from the bifurcation point in the

(does not have cable marker) from the bifurcation point in the cable

cable corresponds to the audio output terminal. The short end



Although the camera has a single audio input system, it supports two types of microphone input: LINE IN and MIC IN. Before using the audio input, change the [Audio Input] on the Setting Page (see "Audio Input" in the "VB-M700F/VB-M600D/VB-M600VE Operation Guide"). LINE IN is selected by default.

- Input terminal: Ф 3.5 mm (Ф 0.14 in.) mini-jack (monaural)
- Dynamic MIC IN
- Input impedance: 1.75 k Ω ± 20% * Supported microphones: Output impedance: $400\Omega - 600\Omega$

■ Audio Input Dual LINE IN/MIC IN (monaural input)

- Condenser MIC IN Input impedance (microphone bias resistance): 2.2 k Ω ± 20%
- Microphone power supply: plug-in power (voltage: 1.8 V) * Supported microphones: Condenser microphones with plug-in power support
- LINE IN Input level: Max. 1 Vp-p

* Use a microphone with an amplifier.

Audio Output Terminal LINE OUT (monaural output) Connect the camera to a speaker with an amplifier. Audio can be sent to the speaker from RM

Output terminal: Φ 3.5 mm (Φ 0.14 in.) mini-jack (monaural)

Output level: Max. 1 Vp-p * Use a speaker with an amplifier.

Important

- Using the wrong settings in [Audio Input] may damage the camera and/or microphone. Be sure to
- configure settings correctly. • Microphone characteristics may affect volume and sound quality.
- Use RM Viewer to send audio to the speaker. VB-M600 Viewer cannot be used to send audio.
- Images and audio do not always synchronize properly. • Audio may be interrupted depending on PC characteristics and network environment.
- distributing to many clients.
- Audio may be interrupted when using antivirus software. Connecting and disconnecting the LAN cable interrupts the audio. Use the viewer to reconnect.

• Images and audio can be distributed to up to 30 clients. However, audio may be interrupted when